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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/781,411	02/18/2004	Alfredo Li Preti	60,137-245	3061

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CARLSON, GASKEY & OLDS, P.C.
400 WEST MAPLE ROAD
SUITE 350
BIRMINGHAM, MI 48009

EXAMINER

LUK, EMMANUEL S

ART UNIT	PAPER NUMBER
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1722

MAIL DATE	DELIVERY MODE
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07/03/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/781,411	Applicant(s) LI PRETI ET AL.	
	Examiner Emmanuel S. Luk	Art Unit 1722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10,15-18,20 and 22-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10,15-18,20 and 22-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1, 2, 6-9, 18, 20, and 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schluter (3975128) in view of Nennecker (5498151).

Schluter teaches a mold valve chamber (20) having an output port (17) on the first axis (Fig. 1) with a mold valve piston (16) and air introduction system (25,34), an injection chamber (1) on a second axis (Fig. 1), an injection piston (3) that is movable in the injection chamber (A), and **clearly** defines a portion of the mold valve chamber inner perimeter (Figures 2 through 4, emphasis on Figure 4). The blower (25) can be operated to inject air into the chamber and thus into the mold, therefore it is selectively operated AND is capable of injecting air into the chamber.

Schluter fails to teach an arcuate portion at the end segment of the injection piston.

Nennecker teaches the concept of an arcuate end portion 32 at the end of a piston 26. The substantially circular cross-section 25 of the chamber 26 and the arcuate portion defines a portion that is substantially cross-sectional.

Schluter already teaches an injection piston that moves into position with the mold valve chamber and to come into close arrangement at the junction for forming the same substantial cross-section as the rest of the mold valve chamber. Nennecker also teaches this concept with an arcuate end portion that engages a substantially circular cross-section. It would have been obvious for one of ordinary skill in the art to modify the apparatus of Schluter with a circular mold valve chamber and an arcuate end portion of the injection piston as taught by Nennecker the mold valve chamber of Schluter need not change cross-section from a circular cross section to a half circle due to a flat piston end face in an attempt to have a closed off cross section at the junction between the mold valve chamber and injection valve chamber.

4. Claims 3-5, 10, and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schluter (3975128) in view of Nennecker as applied to claims 1, 2, 6-9, 18, 20, and 22-25, and in view of Walker (3655208) and Jepsen (3373999).

Schluter, in view of Nennecker, fails to teach the piston configuration.

Walker teaches metal pistons (16) (Col. 1, lines 5-11) having a piston ring (26; seal ring). The seal ring being made from a nonmetallic material (Teflon, Col. 1, lines 9

and 10; Col. 3, line 40) and being surrounded by two portions ("sandwiched") (See Figures 1 and 2). The seal ring will provide an 'interference fit' within the inner perimeter of the chamber. The ring is easy to maintain and economically construct for a nonmetallic material by Walker with minimum waster material (Col. 2, lines 18-20)

Jepsen also teaches pistons and piston ring designs in which a seal ring (24) is sandwiched between two piston sections (18, 16), the ring material can be polyimide resin, epoxy, Teflon, phonlic resins, nylon, carbon-graphite compositions (Col. 3, lines 49-53)

It would have been obvious one of ordinary skill in the art to modify Schluter, as modified by Nennecker, with the nonmetallic portion between two metallic portions as taught by Walker, or Jepsen, because it provides a seal for the piston to prevent leakage.

In regards to claims 10, 15, and 17, the claims do not teach a structural limitation and merely states the air injection system communicating in response to a position of a mold valve piston. The limitation provided is akin to a process of using the apparatus in response to a condition and provides no structural limitation.

In regards to 4 and 5, Schluter shows a mold valve piston in the extended position (Fig. 1), the passage of the air inlet is blocked by the mold valve piston. Thereby, Schluter teaches a mold valve piston that is selectively movable to block the air inlet.

In regards to the arcuate segment, Schluter clearly teaches defining the a portion of the mold valve chamber and thereby it would have been obvious for one of ordinary

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skill in the art to modify the injection piston end to conform to the shape of the mold valve chamber and respective piston to thereby allow for a shape that will conform to the rest of the interior surface because it would allow for movement of the mold valve piston through the chamber without interference.

Response to Arguments

5. Applicant's arguments filed 5/11/07 have been fully considered but they are not persuasive with the new rejection having Nennecker. The applicants argue that the prior art references fail to teach the arcuate portion on the end segments. The Nennecker reference teaches this feature in the molding arts having arcuate portion located on injection pistons and one of ordinary skill in the art would recognize this feature, particularly in light of the Schluter reference that changes the cross-section to accommodate the piston end segment shape rather than the changing the piston end segment shape.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fiorentini (4332335).

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel S. Luk whose telephone number is (571) 272-1134. The examiner can normally be reached on Monday-Fridays from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra N. Gupta can be reached on (571) 272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EL

DUANE SMITH
PRIMARY EXAMINER

[Signature]
6-29-07